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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,787	11/19/2002	David S. Bettinger		4746
26878	7590	01/27/2005	EXAMINER	
DAVID S. BETTINGER 8030 COVENTRY GROSSE ILE, MI 48138			HEWITT, JAMES M	
			ART UNIT	PAPER NUMBER
			3679	

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



## Office Action Summary

Application No.

10/065,787

Applicant(s)

BETTINGER, DAVID S. *ju*

Examiner

James M Hewitt

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/1/04.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Response to Amendment***

The amendment filed 11/1/04 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The amendment to claim 1 which adds that the outer pipe member is radially deflected *elastically*.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McHugh (US 6,131,960) in view of Shafer (US 6,044,904).

With respect to claim 1, McHugh discloses a packing sealed expansion joint (14) comprising: at least one generally cylindrical resilient and elastic seal (44) disposed in an annular packing chamber (see Figure 3) defined between telescopically arranged

Art Unit: 3679

outer (20) and inner (24) pipe members. McHugh fails to teach an outer circumferentially tensioned band and clamp positioned over said generally cylindrical resilient and elastic seal to produce a compressive force to radially deflect the outer pipe member and compress and deflect the elastic seal so that the outer and inner pipe members and the seal create and maintain a bearing and friction-loaded sealed relationship for fluid flow and varying temperatures between adjacent ends of two conduits during axial sliding and rotational relative movement of said outer and inner pipe members. Shafer teaches a packing sealed expansion joint (see Figure 2) comprising: at least one generally cylindrical resilient and elastic seal (50) disposed in an annular packing chamber (48) defined between telescopically arranged outer (12) and inner (20) pipe members, and an outer circumferentially tensioned band and clamp (26, 28) positioned over said generally cylindrical resilient and elastic seal to produce a compressive force to radially deflect the outer pipe member and compress and deflect the elastic seal so that the outer and inner pipe members and the seal create and maintain a bearing and friction-loaded sealed relationship for fluid flow and varying temperatures between adjacent ends of two conduits during axial sliding and rotational relative movement of said outer and inner pipe members. Refer to column 3, lines 42-50. In view of Shafer's teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify McHugh with a band clamp about his outer pipe over the seal (44) in order to further brace the outer pipe (against expansion due to elevated gas temperatures, vibration and other external forces) and to

Art Unit: 3679

maintain sealing between the outer and inner pipes during thermal expansion, vibration, etc.

Note that the clamp about McHugh's device would produce a compressive force to radially deflect the outer pipe member and compress and deflect the elastic seal so that the outer and inner pipe members and the seal create and maintain a bearing and friction-loaded sealed relationship for and during fluid flow and varying temperatures between adjacent ends of two conduits during axial sliding and rotational relative movement of said outer and inner pipe members.

It should also be noted that both McHugh and Shafer are sealed expansion joints that carry exhaust gases.

With respect to claim 2, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a second band clamp about McHugh's second resilient and elastic seal (58), since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Employing a second band clamp would help to further brace the pipe member (20) against expansion in response to elevated gas temperatures, vibration and other external forces.

With respect to claim 3, whereby said annular packing chamber is further volume constrained and circumscribed for each said generally cylindrical resilient and elastic seal by at least two cylindrical guide rings (34/40) attached to one of said outer and inner pipe members and extended radially between said outer and inner pipe members

Art Unit: 3679

and selected to provide a fixed initial volume for each said generally cylindrical resilient and elastic seal.

With respect to claim 4, whereby said compressive force is further selected to produce static compressive frictional forces on the contact surfaces of each said generally cylindrical resilient and elastic seal, said cylindrical guide rings, and said outer and inner pipe members to resist and prevent relative movement due to axial internal pressure, vibration, and transient operational loads.

With respect to claim 5, McHughs fails to teach that his outer and inner pipe members are composed of polymer composites. McHughs employs metal as the material for his pipe members. Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use polymer composites to form the material of McHughs' outer and inner pipe members since it has been held to within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claims 6 and 7, as the claimed fluids are not positively claimed as part of the invention (the expansion joint), the Examiner has not afforded significant patentable weight to the fluids to be used in the joint. McHughs is considered to read on claims 6 and 7 insofar as McHughs' device is considered capable of transporting cryogenic fluid or rocket engine fuel reactant.

With respect to claim 8, whereby said outer circumferentially tensioned band and clamp is selected to provide means (17) for manual and power driven adjustment. The

Art Unit: 3679

tensioning screw can be manually adjusted as by a screwdriver or adjusted by a power tool such as a drill.

### ***Response to Arguments***

Applicant's arguments filed 11/1/04 have been fully considered but they are not persuasive.

Applicant asserts that McHughs does not disclose that his seal (44) is resilient and elastic as is required by claim 1. The Examiner disagrees. Referring to column 3 lines 59-63, McHughs states "the packing material 44 is selected from conventionally known packing materials that can withstand temperatures in a range up to approximately 2300 degrees Fahrenheit." As some of such packing materials are known to be resilient and elastic, McHughs, in effect, discloses that his seal (44) is resilient and elastic.

To address Applicant's other assertions and arguments and to clarify the Office's position, the inventions of both McHughs and Shafer will be described and the 103(a) rejection of McHughs in view of Shafer and the motivation therefor will be explained. McHughs discloses a packing sealed expansion joint (14) comprising a first tube section (20) and a second tube section (24) disposed within the first tube section. Packing material (44, 58) form seals between the first and second tube sections to prevent fluid, such as exhaust gases, from escaping conduit (10) and allow the two sections to slide relative to each other without the metal components thereof to come into contact with each other as the fluid conduit (10) heats and cools during fluid passage and exit.

Art Unit: 3679

Thus, the expansion joint (14) permits the conduit (10) to expand and contract as the conduit (10) changes temperature. See McHughs, col. 5 ll. 5-15. Shafer discloses a joint comprising a first member (12) and a pipe (20) disposed therein. Packing grooves are formed on the inner surface of the member (12) to hold seals (50) to form a seal between inner wall (38) and pipe (20) to prevent gases from escaping therefrom. Shafer's joint expands and contracts during passage and exit of elevated gas temperatures therethrough (see col. 3 ll. 42-50). And it should be understood that during expansion and contraction, some sliding (axial movement), would occur. To counteract such movement and to maintain the seal between the pipe (20) and member (12), Shafer employs a pipe clamp (26), shown disposed about member (12) and around a seal (50). See Shafer, col. 3 ll. 42-50. Thus Shafer provides a pipe joint similar to McHughs, and teaches using a clamp or band about the outer pipe member of the joint to counteract movement resulting from expansion and contraction of the joint and to maintain the seal between the inner and outer pipe members. And Shafer's teaching and motivation is considered sufficient to make it obvious to one having ordinary skill in the art at the time the invention was made to modify McHughs to employ a clamp or band about his tube section (20) in the area of the packing material.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



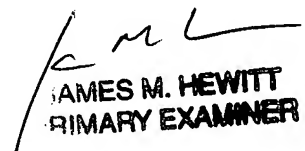
Art Unit: 3679

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M Hewitt whose telephone number is 703-305-0552. The examiner can normally be reached on M-F, 930am-600pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Stodola can be reached on 703-308-2686. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JAMES M. HEWITT  
PRIMARY EXAMINER